

We claim:

1. A first wireless communication device, comprising:
5 a controller capable of receiving an acknowledgement (ACK) message transmitted by a second wireless communication device in response to a message transmitted by said first wireless communication device, and
a collision detector that monitors a wireless medium for collisions.
- 10 2. The first wireless communication device of claim 1, wherein said collision detector evaluates an energy level and detects a collision based on said energy level.
3. The first wireless communication device of claim 2, wherein said collision detector includes a payload detector and detects a collision based on a detected payload.
- 15 4. The first wireless communication device of claim 3, wherein said collision detector includes a preamble detector and detects a collision based on a detected preamble.
5. The first wireless communication device of claim 1, wherein said collision
20 detector is activated after said medium access wireless communication device transmits data.
6. The first wireless communication device of claim 1, wherein said collision detector does not detect a collision if an ACK message or data header is received.
- 25 7. The first wireless communication device of claim 1, wherein said device is implemented in accordance with the IEEE 802.11 Standard.
8. The first wireless communication device of claim 1, wherein said controller
30 determines if said second wireless communication device correctly received said transmitted message by monitoring a wireless medium.

9. The first wireless communication device of claim 1, wherein said controller determines that said second wireless communication device did not likely receive said message if a collision is detected.

5 10. The first wireless communication device of claim 1, wherein said controller determines that said collision was a cause of not receiving said ACK message.

11. A method for detecting a collision in a wireless communication network, said method comprising the steps of:

10 determining if an acknowledgement message is received in response to transmitted data; and

monitoring said wireless communication network to detect a collision.

12. The method of claim 11, wherein said monitoring step evaluates an energy level
15 and detects a collision based on said energy level.

13. The method of claim 12, wherein said monitoring step further comprises the steps of detecting a payload and detecting a collision based on a detected payload.

20 14. The method of claim 13, wherein said monitoring step further comprises the steps of detecting a preamble and detecting a collision based on a detected preamble.

15. The method of claim 11, wherein said monitoring step is activated after said method transmits data.

25

16. The method of claim 11, wherein said monitoring step does not detect a collision if an ACK message or data header is received.

17. The method of claim 11, wherein said method is implemented in accordance with
30 the IEEE 802.11 Standard.

18. A method for detecting a collision in a wireless communication network, said method comprising the steps of:

5 determining if an acknowledgement message is received in response to transmitted data; and
monitoring said wireless communication network to detect a collision if a measured energy level exceeds a predefined threshold.

19. The method of claim 18, wherein said monitoring step further comprises the step
10 of detecting a payload and said collision detection is further based on a detected payload.

20. The method of claim 18, wherein said monitoring step further comprises the step of detecting a preamble and said collision detection is further based on a detected preamble.

15 21. The method of claim 18, wherein said monitoring step is performed after said data is transmitted.

22. The method of claim 18, wherein said monitoring step does not detect a collision if an ACK message or data header is received.

20 23. The method of claim 18, wherein said method is implemented in accordance with the IEEE 802.11 Standard.